

ABSTRACT

The present invention discloses a high stability rare earth zeolite Y with high rare earth and the preparation process thereof, which zeolite has
5 a content of rare earth of 4-15 wt%, a unit cell constant of 2.450-2.458 nm, a differential thermal collapsed temperature of 1000-1056°C, a silica to alumina ratio of 8.3-8.8, and a content of sodium oxide less than 1.0 wt%. Said zeolite is prepared by drying a rare earth-containing zeolite Y, introducing gaseous silicon tetrachloride carried by dry air and reacting at
10 a temperature of 150-600°C for 10 min to 6 h, then purging with dry air and washing with de-cationized water to remove the soluble by-products. The rare earth zeolite Y possesses high activity and selectivity for cracking the heavy oils, high activity for hydrogen transfer, has good coke selectivity, can effectively increase the yield of light oils, and
15 improve the quality of gasoline and thus can directly serve as an active component for preparing various hydrocarbon cracking catalysts.